



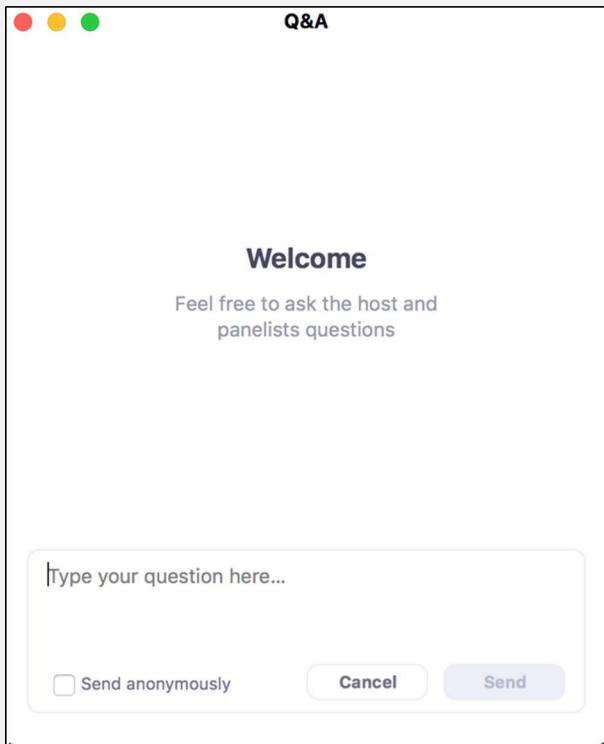
Towards a science-based approach to net-zero in the corporate sector

Information webinar

November 6, 2019

IMPORTANT: This document is work-in-progress. It does not necessarily reflect the views of the SBTi or all of its partners. Because this document is a work-in-progress, it may still change, perhaps profoundly.

Welcome



- This webinar is being recorded.
- Slides and a recording will be posted to our website. They will also be emailed to you.
- **Please type your questions into the Q&A box.**
- There will be time for clarification questions at the end of the webinar.
- **Feedback on the open questions will be collected via a survey, details in the presentation.**

Objectives

1. To share the latest thinking of the SBTi on corporate net-zero target-setting;
2. To describe the planned process and opportunities for engagement and feeding into the process;

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Welcome – agenda, objectives of the session and introduction of speakers

Introduction – the need to reach net-zero emissions and overview of 1.5°C campaign

Net-zero foundations – terminology, definition and principles

Net-zero process – overview, opportunities for engagement and next steps

Q&A

speakers



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Science Based Targets
CDP

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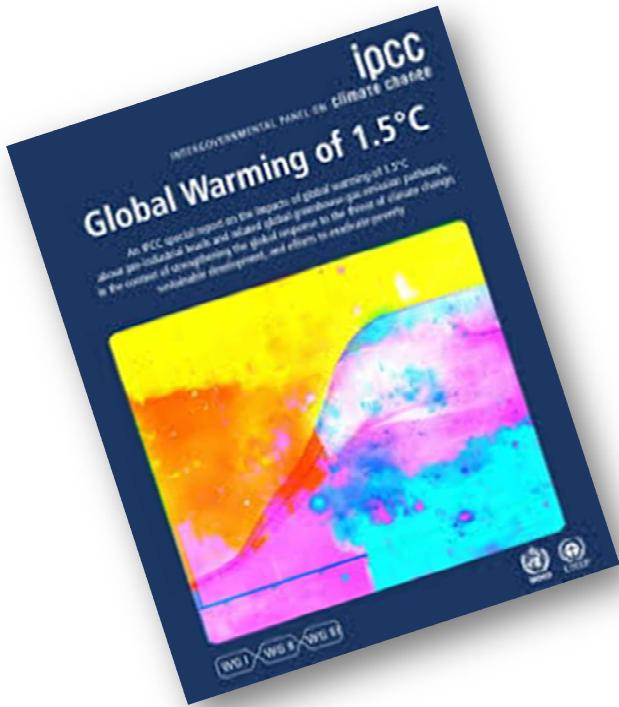
John Sottong
Senior Associate
Science Based Targets
WRI

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1

Introduction – the need to reach net-zero emissions and overview of 1.5°C campaign

Introduction | Key takeaways from the IPCC Special Report on 1.5°C



1. There are significant climate impacts in going above 1.5°C, some of which may be irreversible.
2. According to the IPCC Special Report on 1.5°C, reaching and sustaining net-zero anthropogenic global emissions is necessary to halt anthropogenic global warming. Net-zero would have to be reached in the following timescales:
 - By ~2050 to keep warming below 1.5°C
 - By ~2070 to keep warming well-below 2°C
3. The longer it takes to reach net-zero emissions, the higher the reliance in carbon sequestration and carbon removal measures:
 - The feasibility of carbon removal at scale remains uncertain;
 - Possible additional mitigation costs in the longer-term;
 - Additional demand for land-use and trade-offs on other SDGs.
4. For the corporate sector, this means transitioning towards business models that are compatible with a net-zero economy within the next three to five decades.

Introduction | Business stepping up ambition for 1.5°C



Campaign supporters

H.E. Maria Fernanda Espinosa Garcés

President of the 73rd Session of the General Assembly United Nations

Ambassador Luis Alfonso de Alba

UN Special Envoy for the 2019 Climate Action Summit

Lise Kingo

CEO & Executive Director UN Global Compact

Achim Steiner

Administrator UN Development Programme

Patricia Espinosa

Executive Secretary UNFCCC

Inger Andersen

Executive Director UN Environment Programme

Liu Zhenmin

Under-Secretary-General UN Department of Economic and Social Affairs

Petteri Taalas

Secretary-General World Meteorological Organization

Li Yong

Director-General UNIDO

Jayathma Wickramanayake

UN Secretary-General's Envoy on Youth

Paul Simpson

Chief Executive Officer CDP

Andrew Steer

President & CEO World Resources Institute (WRI)

Manuel Pulgar Vidal

Climate & Energy Practice Leader WWF

Nigel Topping

Chief Executive Officer We Mean Business (WMB)

Christiana Figueres

Co-Founder Global Optimism

Nicholas Stern

Chair of the Grantham Research Institute on Climate Change and the Environment London School of Economics

John Denton

Secretary General International Chamber of Commerce

Paul Polman

Co-Founder & Chair of Imagine SDG Advocate

Professor Klaus Schwab

Executive Chairman World Economic Forum

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High Level Champion for COP 25 Climate Champion through the Marrakech Partnership

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Chief Executive Officer Mission 2020

Aron Cramer

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Chief Executive Officer Principles for Responsible Investment (PRI)

Halla Tómasdóttir

Chief Executive Officer The B Team

Helen Clarkson

Chief Executive Officer The Climate Group

Hugh Evans

President & CEO Global Citizen

Kathleen Rogers

President Earth Day Network

Kathy Calvin

Chief Executive Officer United Nations Foundation

Mindy Lubber

CEO & President Ceres

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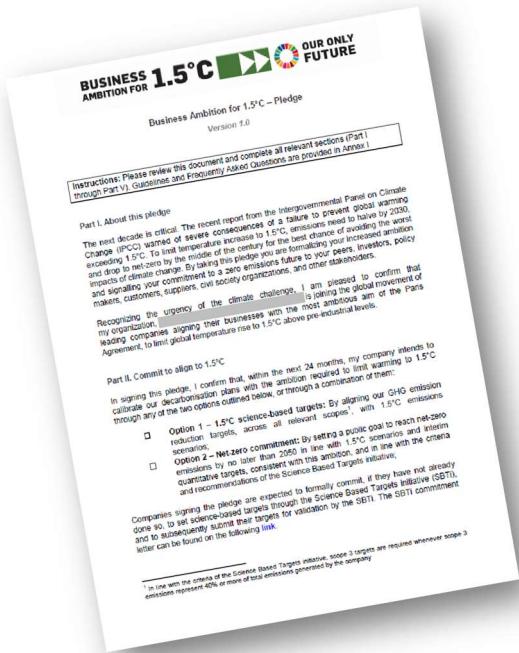
Introduction | Business stepping up ambition for 1.5°C

**BUSINESS
AMBITION FOR** **1.5°C**   **OUR ONLY
FUTURE**



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Introduction | Business stepping up ambition for 1.5°C



Companies can join the campaign by signing a pledge form. Through the pledge, companies commit to align to 1.5°C within 24 months through any of the following options:

- ▶ **Science-based targets:** By aligning GHG emission reduction targets, across all relevant scopes, with 1.5°C emissions scenarios;
- ▶ **Net-zero commitment:** By setting a public goal to reach net-zero emissions by no later than 2050 in line with 1.5°C scenarios and interim quantitative targets, consistent with this ambition, and in line with the criteria and recommendations of the Science Based Targets Initiative;

Introduction | Business stepping up ambition for 1.5°C



“Now we need many more companies to join the movement, sending a clear signal that markets are shifting.

– António Guterres,
UN Secretary-General

BUSINESS AMBITION FOR 1.5°C  **OUR ONLY FUTURE** 

UN Photo/Mark Garten

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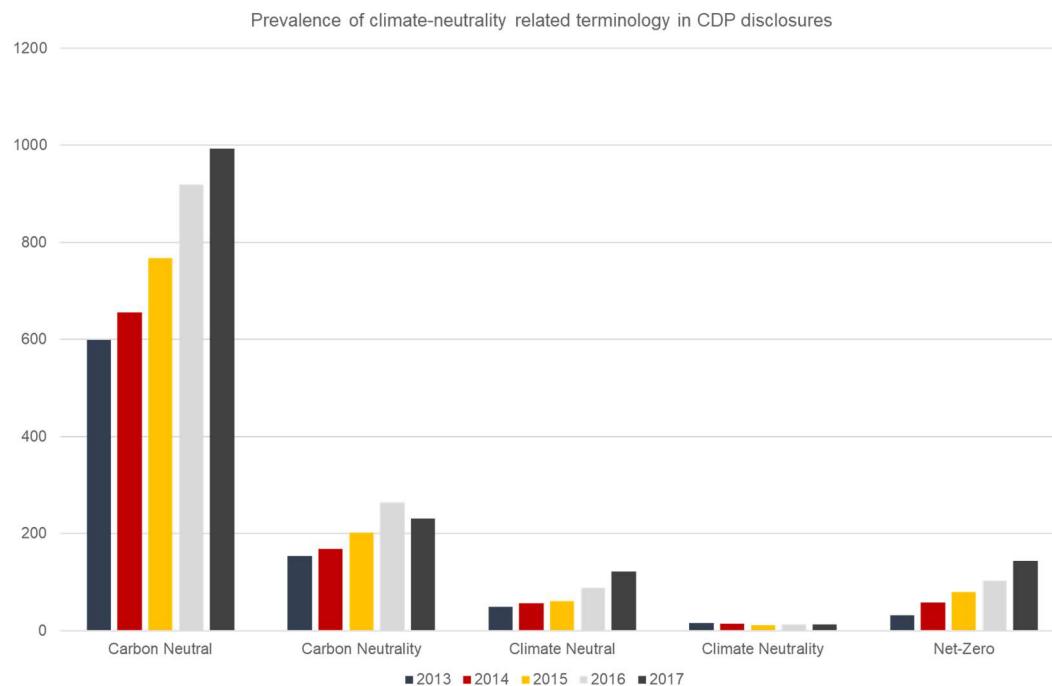


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Net-zero foundations – terminology, definition and principles

Towards net-zero I Why do we need a standard framework for corporate net-zero targets?

According to data disclosed to CDP, the number of companies referring to strategies to neutralise their impact on the climate has been growing in the past few years. Yet, the terms carbon neutrality, climate neutrality and increasingly, net-zero, have often been used interchangeably and sometimes inconsistently.

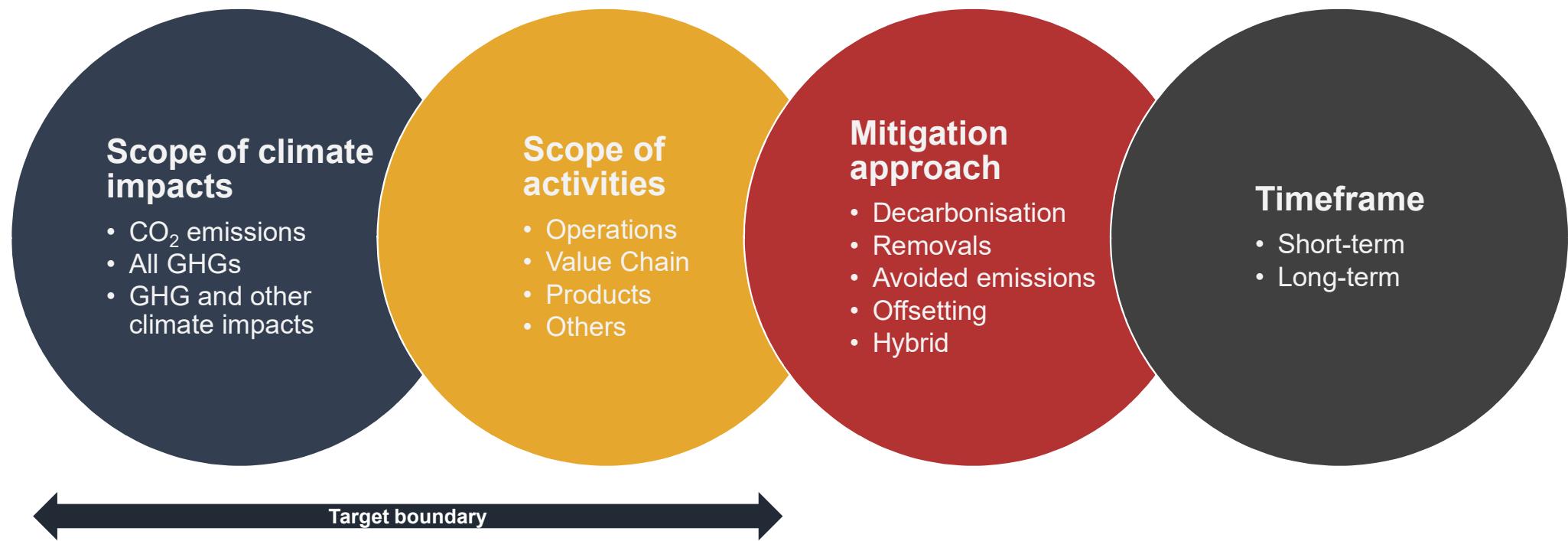


Source: P. Faria based on CDP data

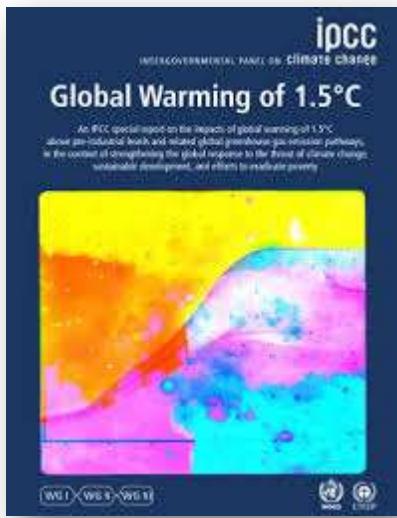
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Towards net-zero I Why do we need a standard framework for corporate net-zero targets?

A closer look into corporate climate neutrality targets shows that targets often differ across four key dimensions:



Towards net-zero I Clarifying terms and definitions

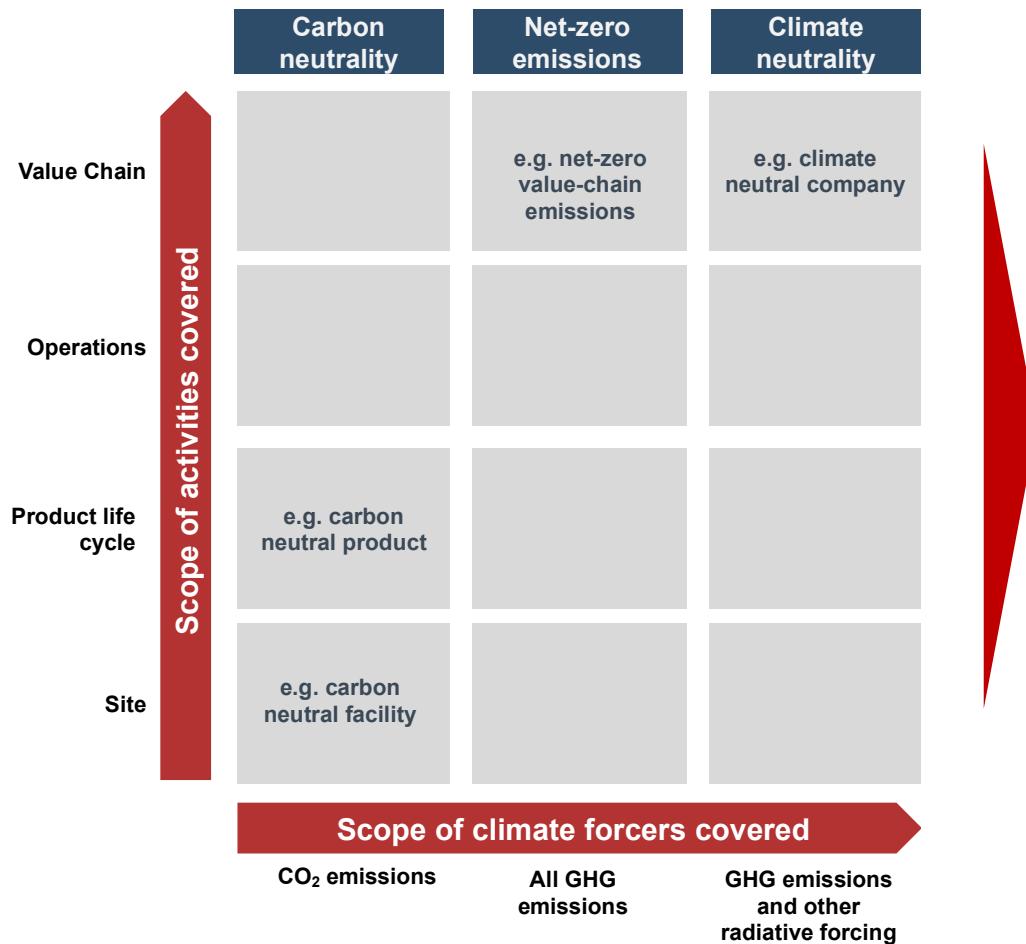


Carbon neutrality: Net zero carbon dioxide (CO₂) emissions are achieved when anthropogenic CO₂ emissions are balanced globally by anthropogenic CO₂ removals over a specified period. Net zero CO₂ emissions are also referred to as carbon neutrality;

Net-zero emissions: Net zero emissions are achieved when anthropogenic emissions of greenhouse gases to the atmosphere are balanced by anthropogenic removals over a specified period. Where multiple greenhouse gases are involved, the quantification of net zero emissions depends on the climate metric chosen to compare emissions of different gases (such as global warming potential, global temperature change potential, and others, as well as the chosen time horizon);

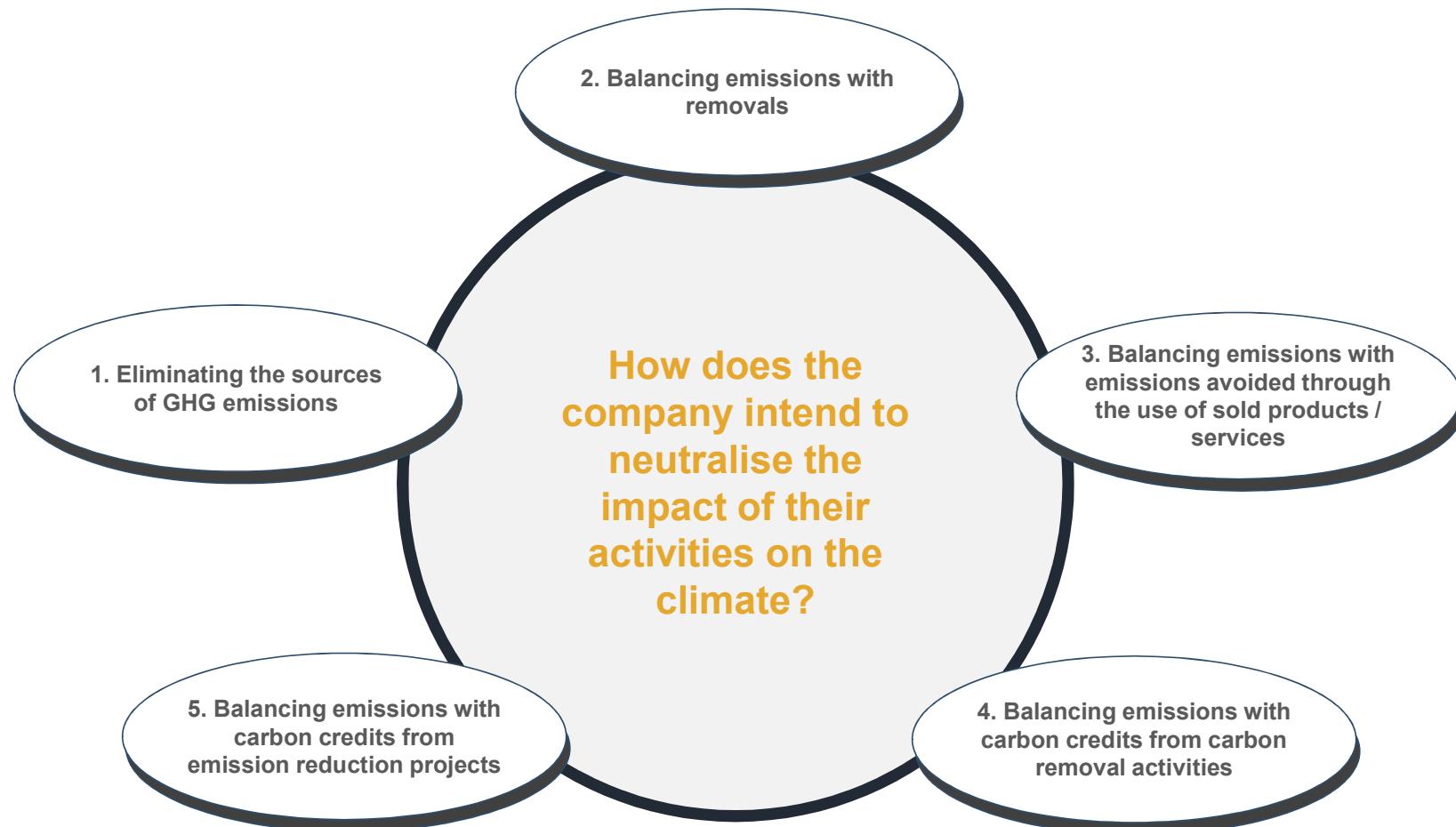
Climate neutrality: Concept of a state in which human activities result in no net effect on the climate system. Achieving such a state would require balancing of residual emissions with emission (carbon dioxide) removal as well as accounting for regional or local bio-geophysical effects of human activities that, for example, affect surface albedo or local climate;

Towards net-zero I Clarifying terms and definitions



- For most sectors and companies, the release of GHG emissions into the atmosphere represents the most relevant impact on the climate. In these cases, net-zero emissions and climate neutrality can be considered equivalent;
- When non-CO₂ emissions are NOT relevant for a company, carbon neutrality, net-zero emissions and climate neutrality can be considered equivalent;

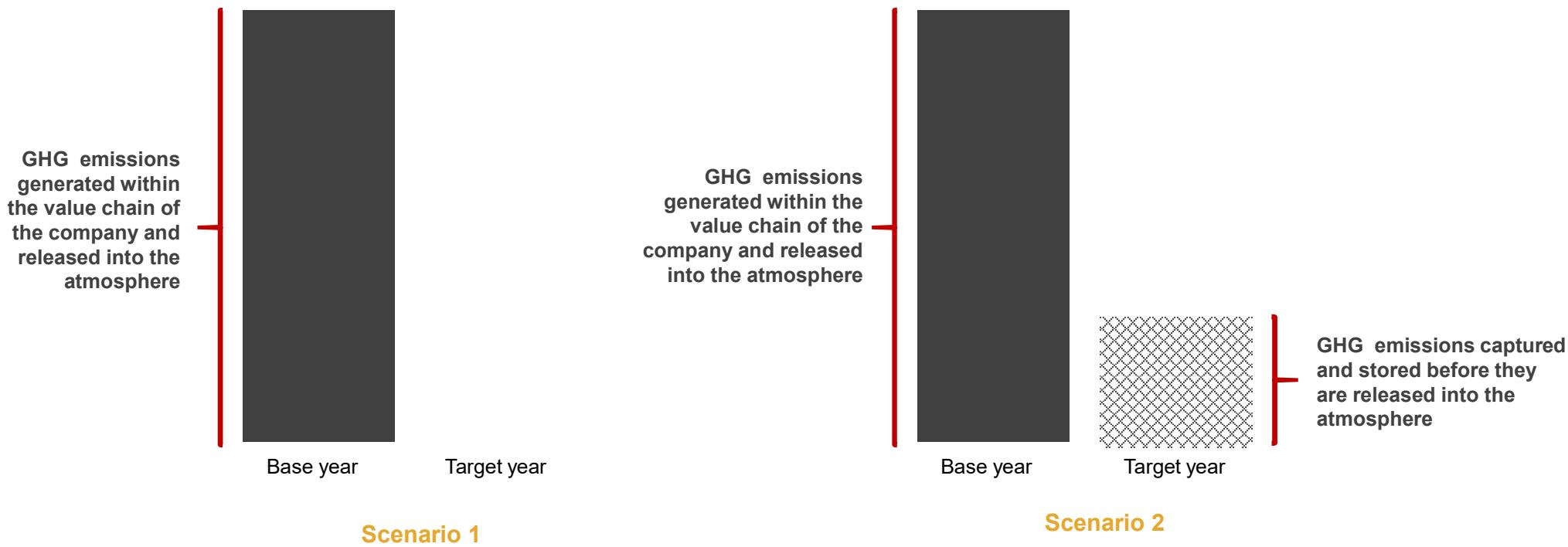
Towards net-zero | Mitigation approaches



Towards net-zero | Mitigation approaches

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1. Decarbonization - Neutrality is achieved/claimed by eliminating the sources of emissions within the boundary of the target. This is often achieved by avoiding activities that generate emissions (e.g. avoiding combustion of fossil fuels) and/or by preventing the release of the emissions that continue to be generated (e.g. through the capture and permanent storage of emissions before they are released into the atmosphere).

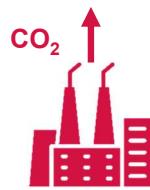


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Towards net-zero | Mitigation approaches

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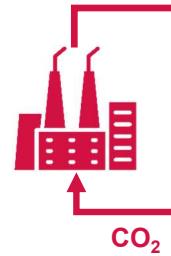
1. Decarbonization – Example



Base year scenario: Electric utility generates electricity with a mix of GHG emitting technologies (e.g. coal and gas)



Net-zero scenario 1: Electric utility has shifted entire generation capacity from fossil to renewable technologies

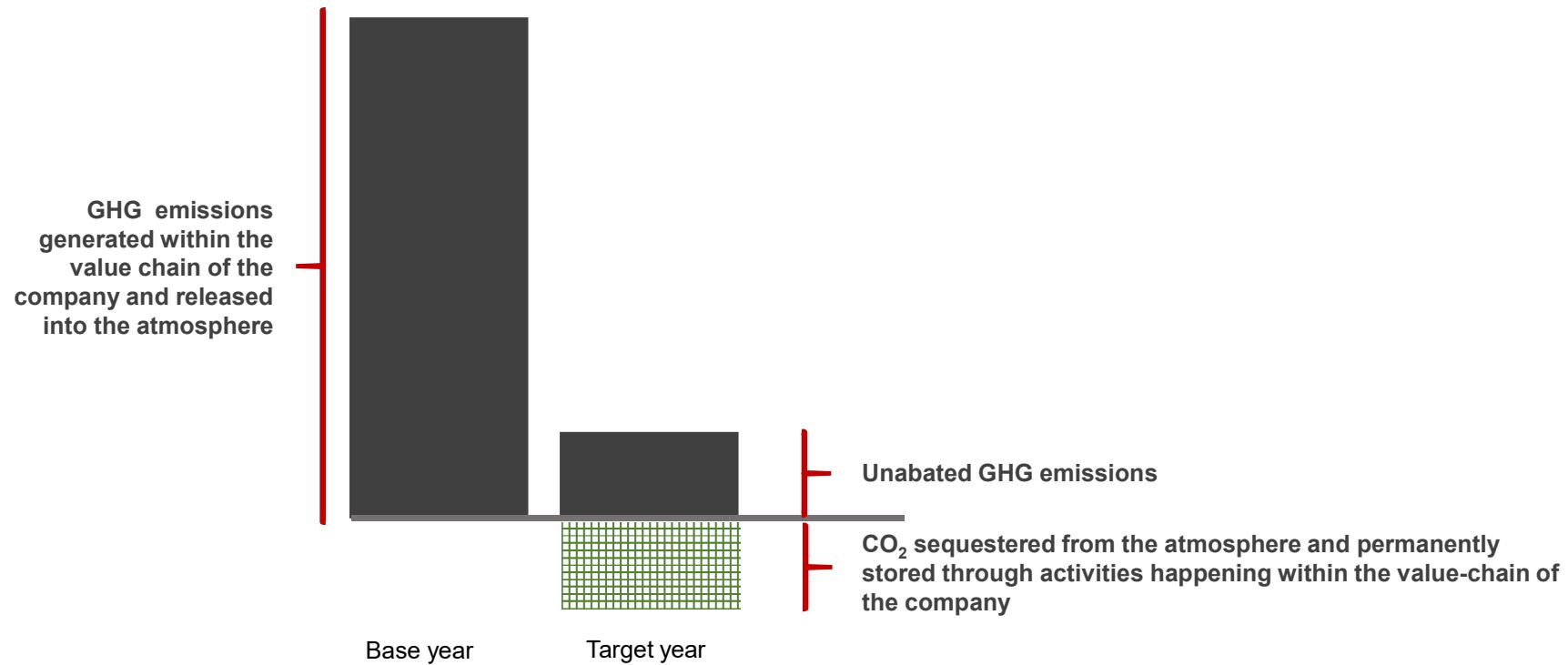


Net-zero scenario 2: Electric utility has shifted some assets from emitting to non-emitting technologies and has retrofitted the remaining assets with carbon capture and storage capabilities

Towards net-zero | Mitigation approaches

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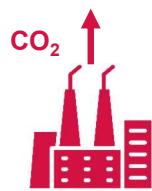
2. Balancing emissions with removals within the value-chain - Neutrality is achieved/claimed by balancing unabated emissions with an appropriate amount of carbon removals happening within the value-chain of the company.



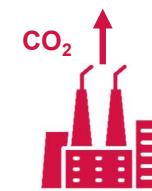
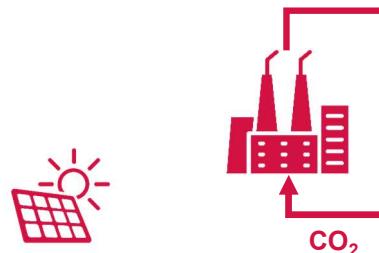
Towards net-zero | Mitigation approaches

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2. Balancing emissions with removals within the value-chain – Example



Base year scenario: Electric utility generates electricity with a mix of GHG emitting technologies (e.g. coal and gas)

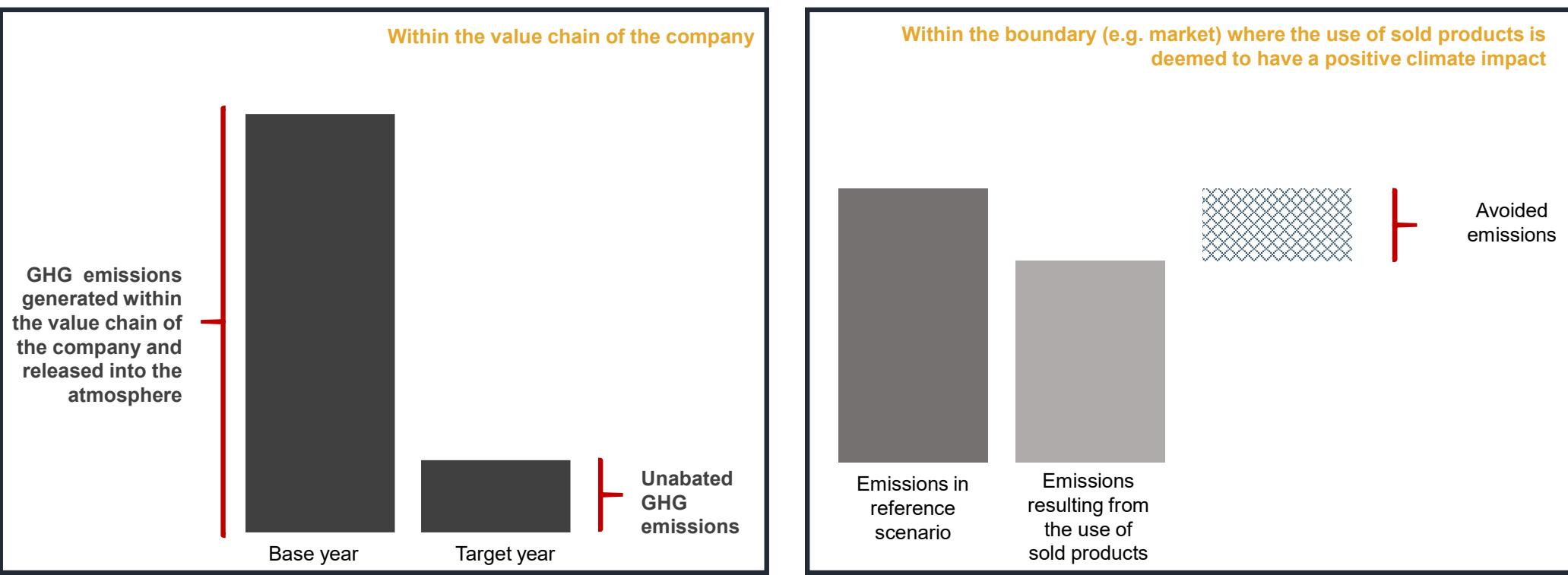


Net-zero scenario: Electric utility has shifted some assets from fossil to fossil-free technologies, has retrofitted some assets with carbon capture and storage capabilities, and is sequestering and storing an amount of carbon equivalent to the amount of carbon still released into the atmosphere by the remaining assets through land under operational or financial control by the company

Towards net-zero | Mitigation approaches

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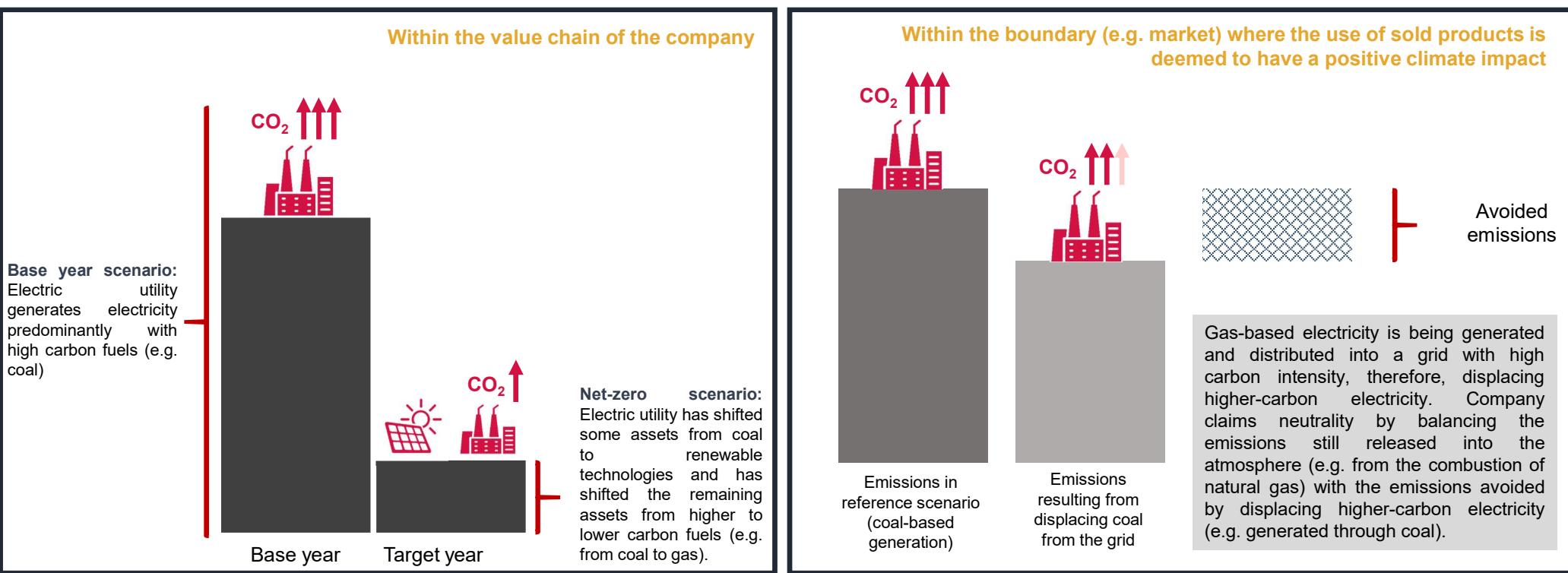
3. Balancing emissions with emissions avoided through the use of sold products / services - Neutrality is achieved/claimed by balancing unabated emissions with an equivalent amount of emissions avoided through the use of sold products or services



Towards net-zero I Mitigation approaches

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3. Balancing emissions with emissions avoided through the use of sold products / services – *Example*

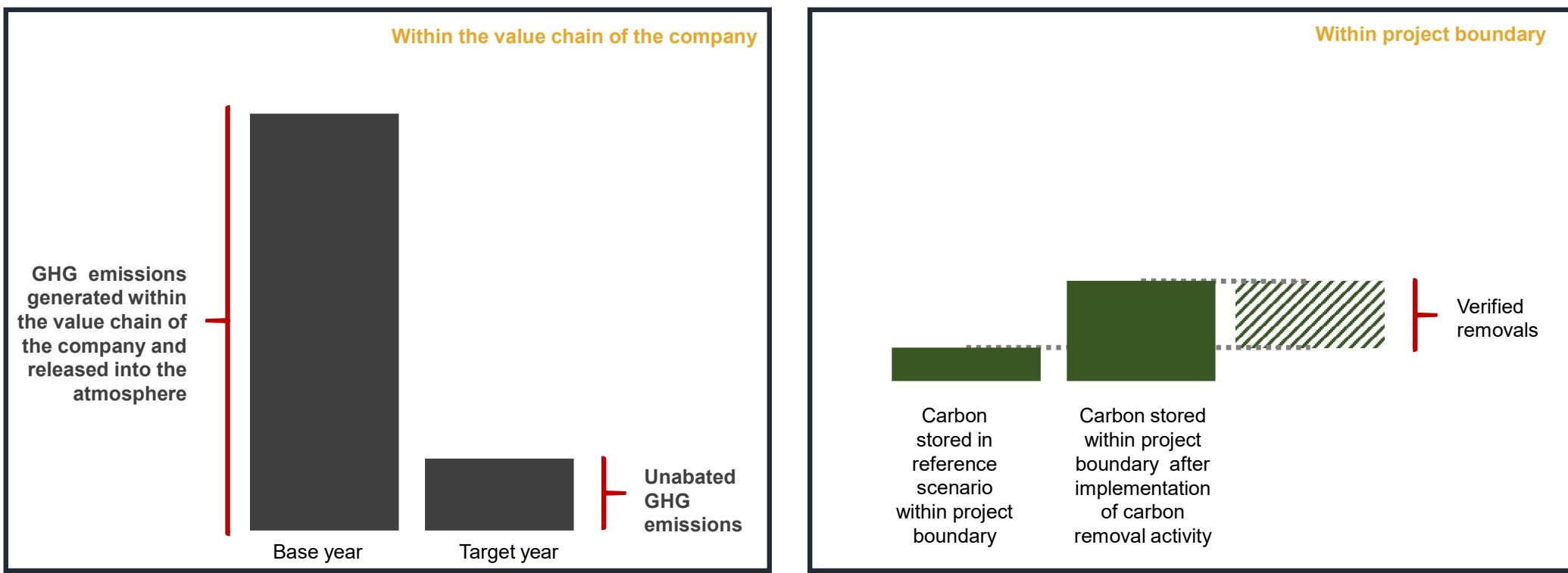


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Towards net-zero | Mitigation approaches

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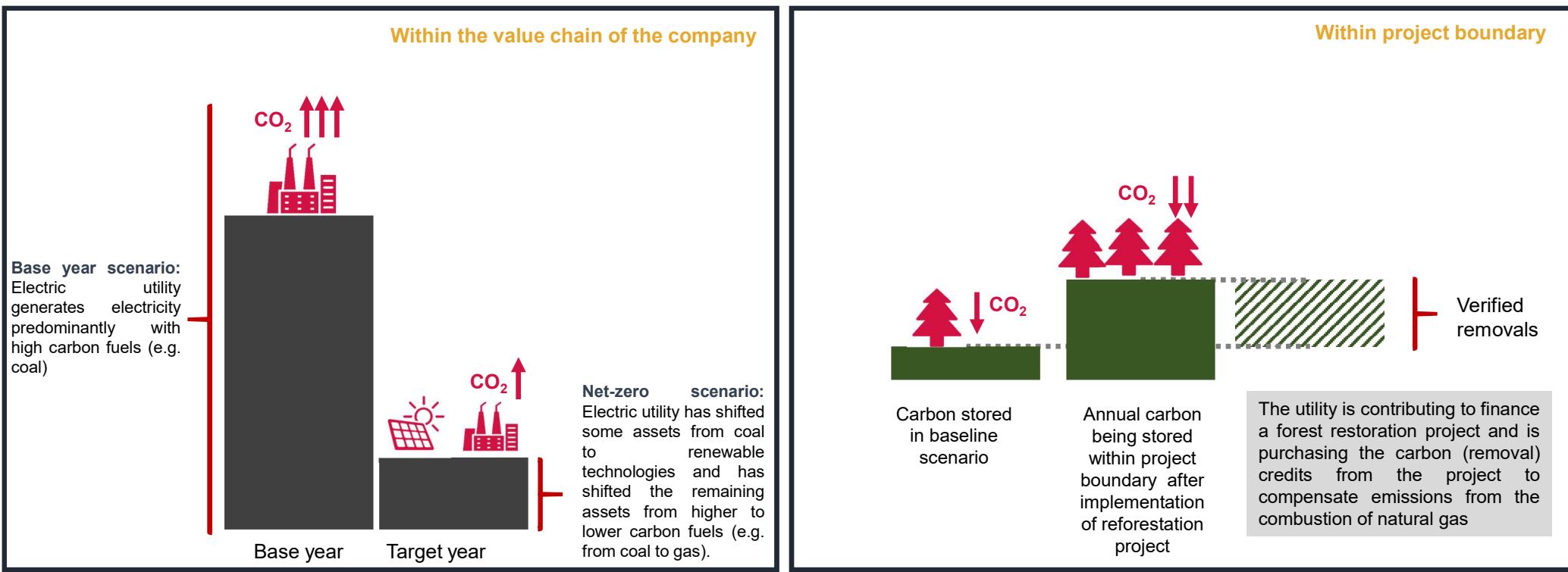
4. Balancing emissions with carbon credits from carbon removal projects - Neutrality is achieved/claimed by balancing unabated emissions with carbon credits generated from activities that remove carbon from the atmosphere outside of the value-chain of the company.



Towards net-zero | Mitigation approaches

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4. Balancing emissions with carbon credits from carbon removal projects – Example

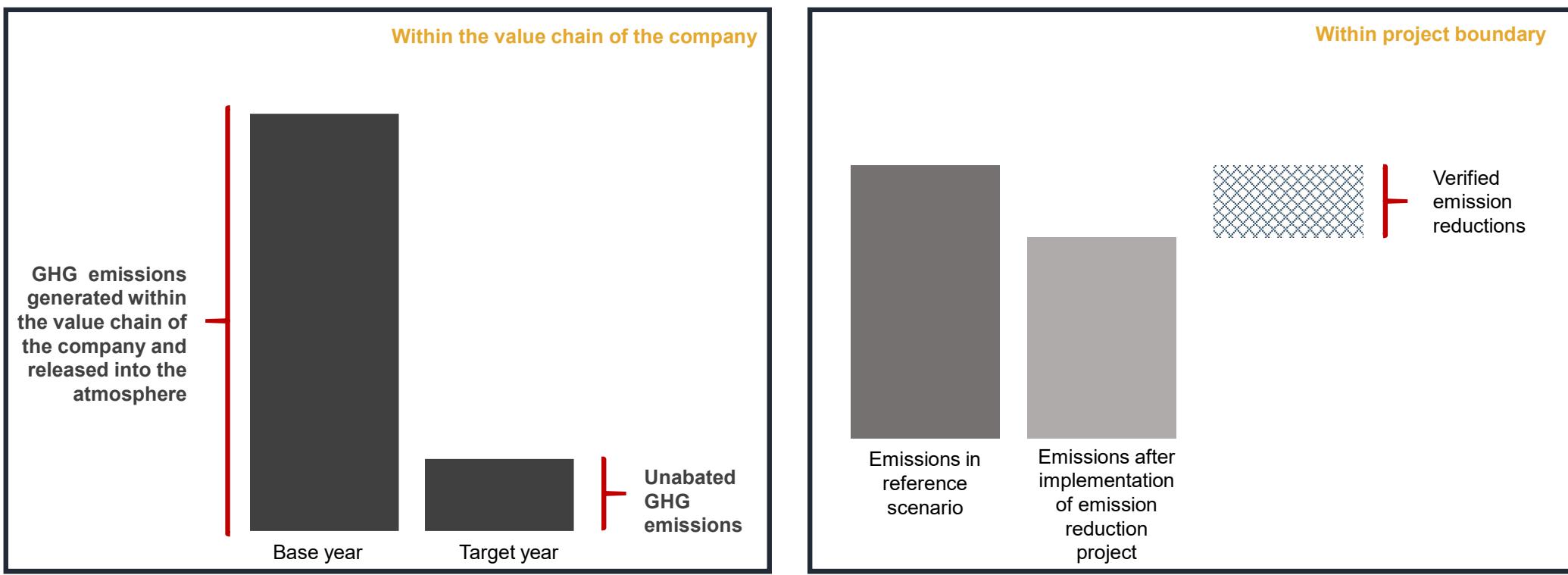


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Towards net-zero | Mitigation approaches

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5. Balancing emissions with carbon credits from emission reduction projects - Neutrality is achieved/claimed by balancing unabated emissions with carbon credits generated from activities that reduce emissions outside of the value-chain of the company.

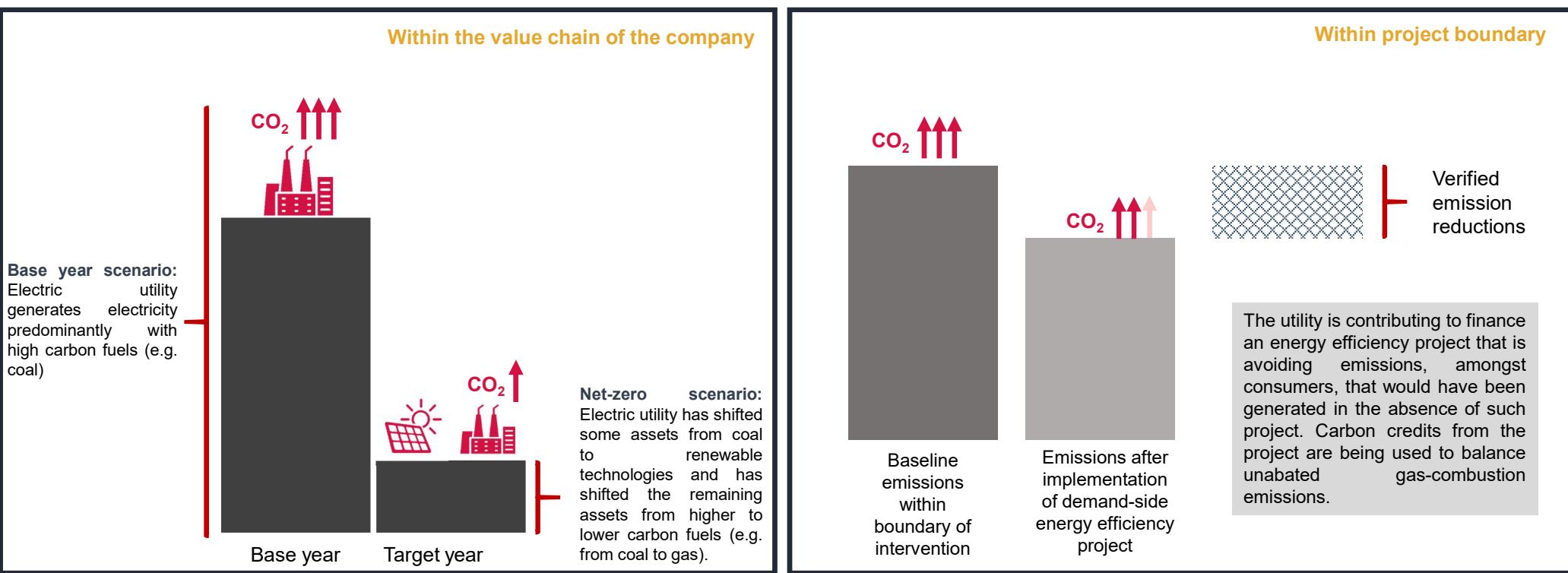


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Towards net-zero | Mitigation approaches

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5. Balancing emissions with carbon credits from emission reduction projects – Example

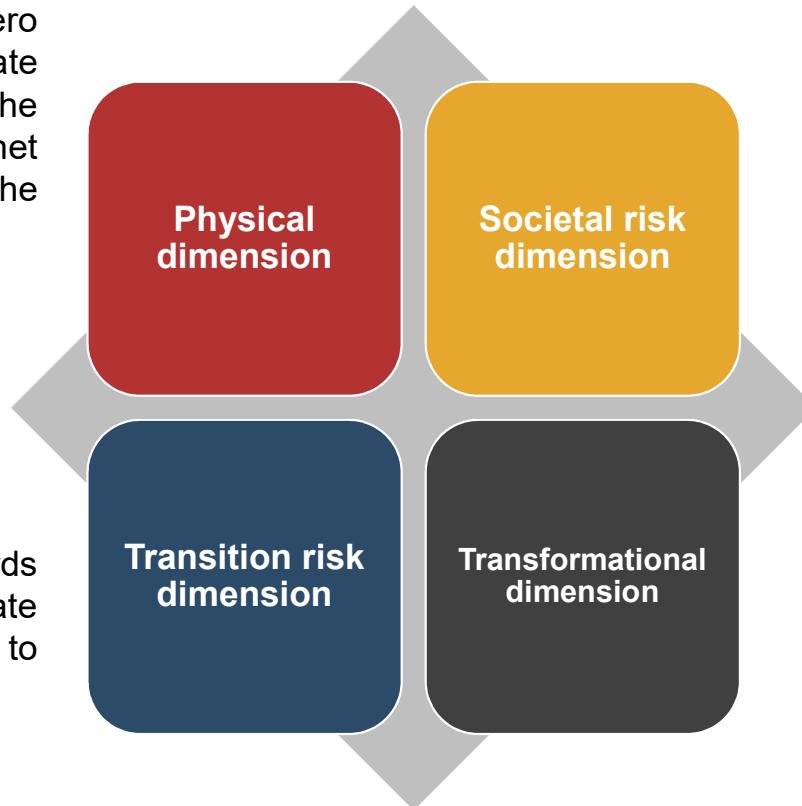




How do we assess the strengths and weaknesses of these different mitigation approaches? How do we design a framework for driving and assessing long-term net-zero targets that is informed by science?

Towards net-zero I Guiding principles

Principle 1: Reaching net-zero emissions involves achieving a state in which the business model of the company results in no net accumulation of GHG in the atmosphere;



Principle 3: Transitioning towards net-zero should effectively mitigate the climate-related transition risks to which the company is exposed;

Principle 2: Companies should transition towards net-zero in line with mitigation pathways that limit global warming to 1.5°C with no or limited overshoot;

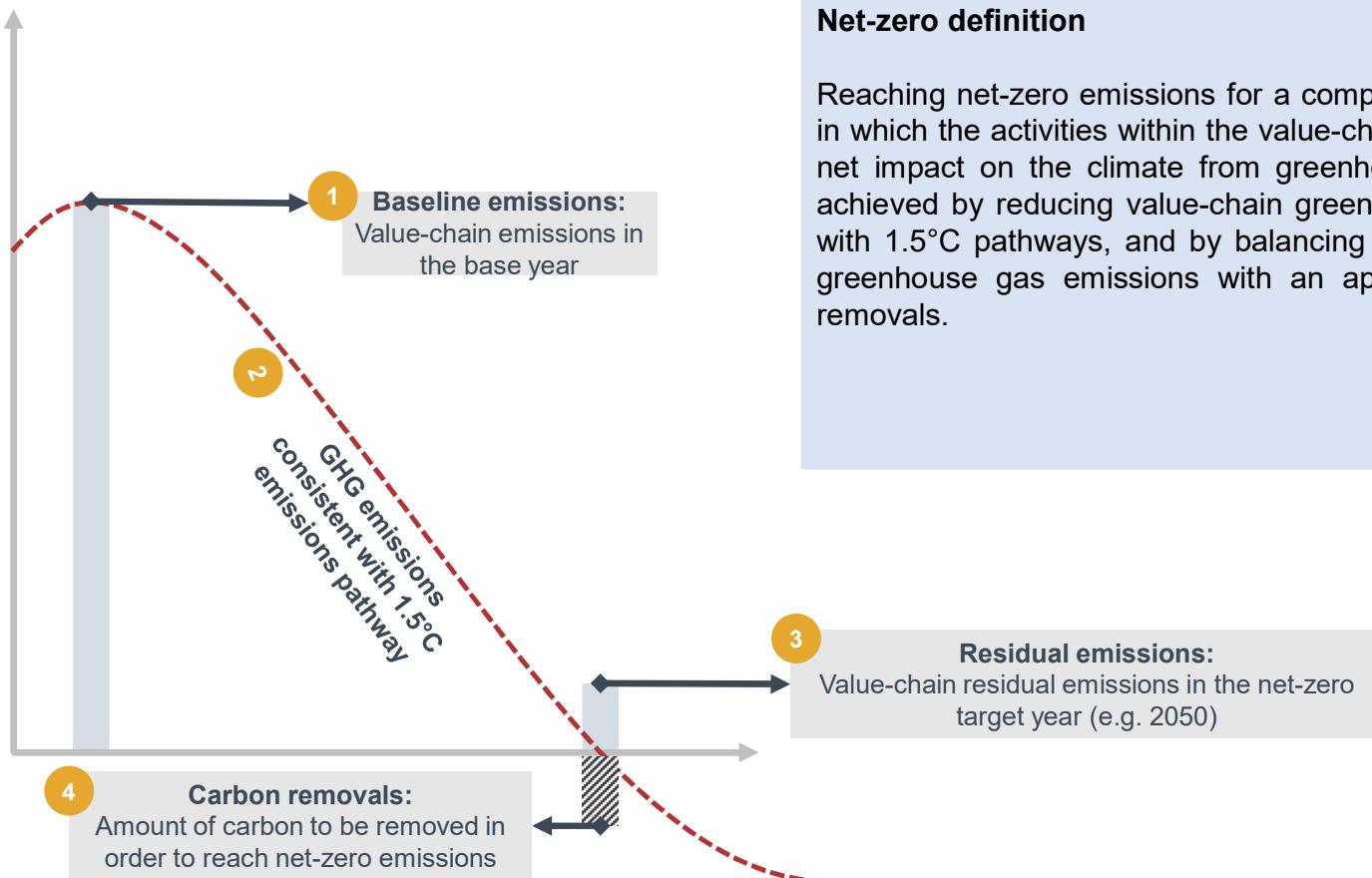
Principle 4: The approach followed by the company to reach net-zero emissions should inform long-term strategies and investments and should provide certainty to investors, and other stakeholders, that the business model of the company will continue to be viable in a net-zero carbon economy;

Towards net-zero | Assessment of mitigation approaches against guiding principles

	Effectiveness to neutralise impacts from the company on the climate	Consistency with 1.5°C mitigation pathways	Effectiveness to mitigate climate-related transition risks	Effectiveness to drive transformation and to inform long-term strategies and investments
Decarbonisation	High	As long as decarbonisation happens in line with 1.5°C pathways	High	High
Balance of emissions with removals within the value chain	Depending on the permanence of sequestration	Consistent only when removals are permanent and limited to balancing residual emissions	In some cases	In some cases
Balance of emissions with carbon credits from removal activities	Depending on the permanence of sequestration	Consistent only when removals are permanent and limited to balancing residual emissions	Limited	Limited
Balance of emissions with avoided emissions through the use of sold-products	Limited	Not consistent	In some cases	Limited
Balance of emissions with carbon credits from reduction activities	Limited	Not consistent	Limited	Limited

Note: The assessment has been conducted applying the GHG balance sheet to the different mitigation approaches

Towards net-zero I Definition



Net-zero definition

Reaching net-zero emissions for a company means achieving a state in which the activities within the value-chain of a company result in no net impact on the climate from greenhouse gas emissions. This is achieved by reducing value-chain greenhouse gas emissions, in line with 1.5°C pathways, and by balancing the impact of any remaining greenhouse gas emissions with an appropriate amount of carbon removals.



3

Net-zero process – overview, opportunities for engagement and next steps

Towards net-zero | Building blocks



Towards net-zero | Key milestones for net-zero process under the SBTi



Guiding principles

Overarching principles to inform net-zero definition and the development of net-zero guidance and criteria

Definition

Net-zero definition in the corporate sector in line with guiding principles

Net-zero guidance

Practitioner's guidance to inform the formulation and implementation of net-zero targets in the corporate sector

Criteria

Criteria to inform the formulation and assessment of corporate net-zero targets

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Towards net-zero | Next steps



Towards net-zero I Get involved



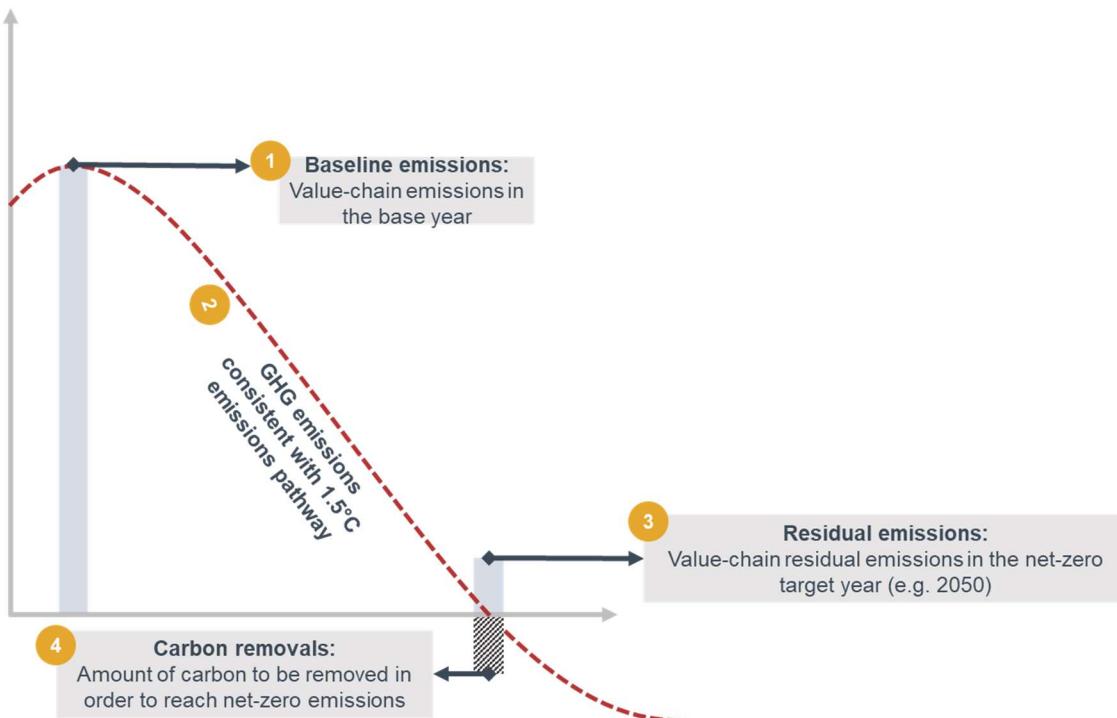
Net-zero foundations paper –
draft for consultation ([link](#))



Online survey ([link](#))
Please complete by Nov 15

Towards net-zero | Key open questions

(to be answered through the survey)



The role of removals

The sequestration and storage of atmospheric carbon plays an important role in integrated assessment model (IAM) scenarios. However, there are uncertainties about the scale at which removals can occur, and concerns about deterring short or long-term decarbonisation by relying on the ability to remove carbon at scale in the future. The SBTi is taking a precautionary approach on this and is recommending that the use of removals is limited to balancing the impact of residual emissions as per 1.5°C consistent scenarios with no or limited overshoot. Do you agree with this approach?

Towards net-zero | Key open questions

(to be answered through the survey)

NOTE: The upcoming GHG Protocol guidance development will determine how emissions and removals need to be publicly reported by companies. The aggregation of emissions presented in the table below is included with the sole purpose of illustrating the different components potentially involved in the determination of net GHG emissions at the corporate level.

Gross GHG emissions		Carbon removals	Net GHG emissions
	(tCO ₂ e/year)	(tCO ₂ /year)	(tCO ₂ e/year)
	Annual GHG emissions released into the atmosphere	Net annual CO ₂ removed from the atmosphere and permanently stored	Net annual GHG emissions
(1) Direct emissions			$(G) = (A) - (B)$
Scope 1	(A)	(B)	
(2) Indirect emissions			$(H) = (C) - (D)$
Scope 2	(C)	(D)	
Scope 3	(E)	(F)	$(I) = (E) - (F)$
(3) Total value-chain emissions	$(J) = (A) + (C) + (E)$	$(K) = (B) + (D) + (F)$	$(L) = (J) - (K)$
(4) Removals outside of the value-chain of the company			
(5) Net balance of emissions and removals		(M)	$(N) = (L) - (M)$

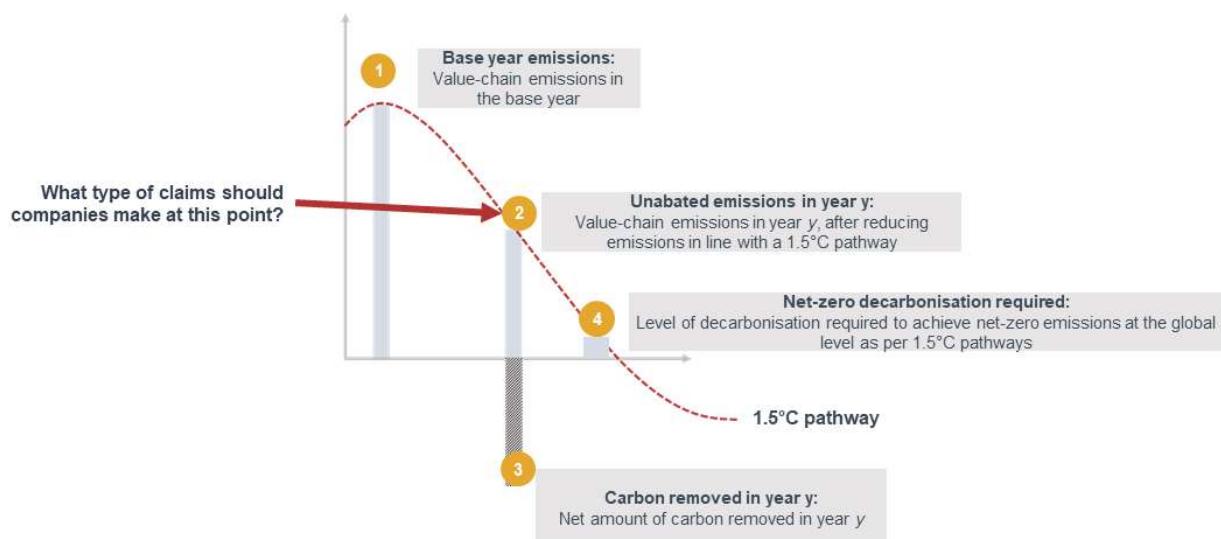
Should removals outside of the value-chain be used to achieve net-zero emissions?

Removals outside of the value-chain

Carbon removal activities could potentially occur within the value-chain of companies (e.g. for companies with land-related activities) but also outside of the value-chain of companies (e.g. through market mechanisms). The SBTi has not adopted a position on this yet. Please share your views about the source of removals for corporate net-zero targets recognised by the SBTi

Towards net-zero I Key open questions

(to be answered through the survey)

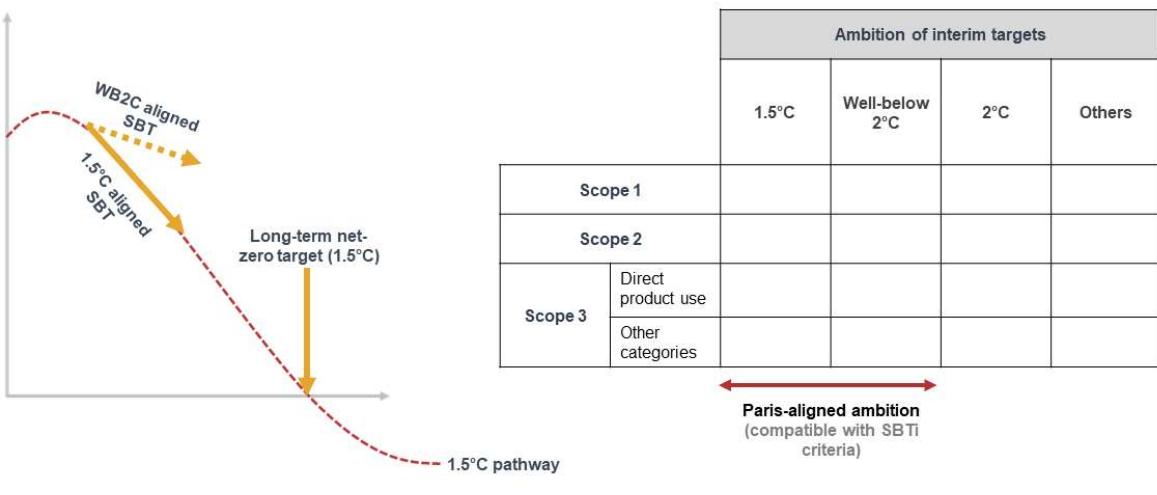


Net-zero claims

Companies may start balancing their unabated emissions with removals before achieving the level of decarbonisation that is compatible with achieving net-zero emissions at the global level. In your view, what type of claims should companies make in these cases?

Towards net-zero | Key open questions

(to be answered through the survey)



Ambition of interim targets

Net-zero targets are generally long-term targets (exceeding a 15 year timeframe). For this reason, the SBTi recommends supplementing long-term net-zero targets with interim targets. In your opinion, what should be the ambition required for interim targets to be recognised by the SBTi? (Note: interim targets refer to short or mid-term targets that supplement long-term net-zero targets)

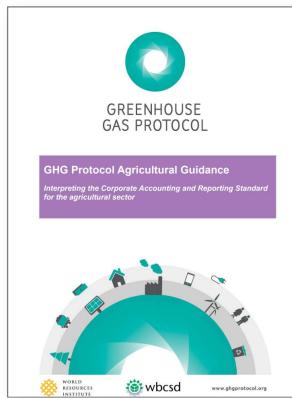
GHG Protocol update | Need for new guidance



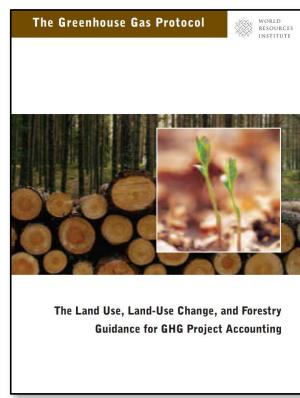
WORLD
RESOURCES
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Limited guidance for corporate GHG inventories on accounting for emissions and removals from land use, land use change and forestry across the scopes



Agriculture sector
guidance for
companies



Project accounting:
Guidance for quantifying and
reporting GHG reductions
from LULUCF project
activities



Product-level inventories:
Includes guidance on
accounting for land use
change (Appendix B)

Increasing questions about how
to account for activities such as:

- Land use and management
- Land use change
- Carbon removals
- Bioenergy

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GHG Protocol update | Need for new guidance



- New Greenhouse Gas Protocol guidance will be developed on how to account for:
 - Land use
 - Land use change
 - Carbon removals
 - Bioenergy
- Guidance will build on existing GHG Protocol standards, covering scopes 1, 2 and 3
- Guidance will be used by the Science Based Targets initiative

Get involved:

- ✓ Scoping survey (early 2019)
- Convene technical working group and review group (Q4 2019)
- Develop first draft (Q3 2020)
- Review and pilot testing (Q4 2020)
- Publish guidance (Q3 2021)

Click [here](#) to learn more about the project

If you are interested in participating, please fill out the expression of interest form by Sunday, November 10.

4

Q&A



✉ info@sciencebasedtargets.org

🔗 www.sciencebasedtargets.org

🐦 [@sciencetargets](https://twitter.com/sciencetargets)

WE MEAN
BUSINESS